



How is the World Bank Using Climate Finance to Support Transport Decarbonization?

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Introduction

Transportation emissions represent one of the largest and fastest growing sources of carbon dioxide (CO₂) emissions.¹ Emissions from the transportation sector are expected to continue rising rapidly through 2050, both in absolute terms and as a percentage of CO₂ if unchecked.² While transportation is essential for economic development and access to services, it is imperative to seek out opportunities to drastically reduce emissions in the sector. Replacing internal combustion engine (ICE) vehicles with zero-emission vehicles (ZEVs) is essential to decarbonize transport.³ The World Bank's approach to decarbonizing transport follows the Avoid-Shift-Improve Framework, which does acknowledge electric vehicles and their potential for reducing GHG emissions.⁴ In addition, the Bank has established programs and facilities, such as [Sustainable Mobility For All](#) (Sum4All) and the [Global Facility to Decarbonize Transport](#) (GFDT), to support transport decarbonization through project design and implementation, research, and data collection.

Despite these initiatives and other Bank statements about the need to decarbonize transport, a BIC [report](#) concluded that the Bank's portfolio does not reflect this climate imperative.⁵ That report analyzed projects approved between January 2017 and September 2021. It found that 68 percent of the World Bank's public sector (IBRD/IDA) transport projects support Internal Combustion Engine (ICE) vehicles and ICE infrastructure, such as petrol stations, while only two percent support ZEVs. In addition, an [Independent Evaluation Group](#) (IEG) [Evaluation Insight Note](#) noted that, "the composition of the transport lending portfolio has not changed much between the periods of FY08-FY14 and FY15-FY22,Q1,

suggesting that decarbonization opportunities are being missed."⁶

This report builds off of the 2021 report, but has a more specific focus on the Bank's transportation climate finance,⁷ where prioritization of decarbonization should be most apparent. We examined transportation projects with claimed mitigation co-benefits in the Bank's climate finance portfolio, where Bank investments are most likely to demonstrate support for ZEVs and ZEV infrastructure. In our review of 33 projects with mitigation co-benefits, we identified only one project where project documents include intent to use ZEVs, whereas two other projects reference intent to use ICE buses. If the Bank is not supporting ZEVs, it becomes all the more important to understand how Bank climate finance is supporting decarbonization in the transportation sector.

We also want to acknowledge that the Bank has responded to our request for input on a draft of this report, which is greatly appreciated. We will reference the Bank's response below in the Discussion on Findings.

Methodology

The Bank publishes a list of annual project-level climate finance data⁸ for the public sector (IBRD/IDA), which contains information about each project, such as the Global Practice (GP) and the total amount of climate finance, including a breakdown of finance for adaptation and mitigation. Using the available data for Fiscal Years (FY) 2018 through 2021, we extracted all transport sector projects with co-benefits (93) before narrowing them down to projects with mitigation co-benefits (55).⁹ Project-level data for FY22 and FY23 projects was unavailable when we began conducting our research. Data for the two fiscal years have since been published, and BIC will be reviewing this additional information in the Bank's implementation of climate commitments, such as the

1 United Nations Environment Programme. 2024. Sectoral Solution to Climate Change: Transport. <https://wedocs.unep.org/20.500.11822/45764>

2 "Transport Overview," World Bank, September 18, 2023, <https://www.worldbank.org/en/topic/transport/overview>

3 Elizabeth Connelly & Amrita Dasgupta, "Electric Vehicles," July 11, 2023, <https://www.iea.org/energy-system/transport/electric-vehicles>. & Chelsea Baldino, Georg Bieker, & Stephanie Searle, "Decarbonizing Road Transport by 2050: Zero Emission Pathways for Passenger Vehicles," ZEV Transition Council, July 2021, <https://theicct.org/wp-content/uploads/2021/12/zevtc-decarbonizing-by-2050-Jul2021%E2%80%AF.pdf>.

4 The Avoid-Shift-Improve (ASI) framework "calls for measures to avoid unnecessary motorized trips based on proximity and accessibility, shifting to less carbon-intensive transport modes such as high-occupancy vehicles or non-motorized modes, and improving the carbon intensity of the transport system or the efficiency of freight and passenger vehicles." World Bank. Transport Sector Note on Applying the World Bank Group Paris Alignment Assessment Methods (English). Washington, D.C.: World Bank Group. <http://documents.worldbank.org/curated/en/099802104072399820/IDU042c63ab700a4904fdb09fea073c99ff21977> & Bianca Bianchi Alves, Lama Bou Mjahed, & Joanna Moody, Decarbonizing Urban Transport for Development Mobility and Connectivity Series, (Washington DC, World Bank, 2023), License: Creative Commons Attribution CC BY 3.0.

5 Marco Vermaasen, Are the WBG and IDB doing enough for transport decarbonization? (Washington DC, Bank Information Center, 2021), https://prismic-io.s3.amazonaws.com/bankinformationcenter/d50911eb-4e66-40b6-b4a3-9c0214c374b1_Are+the+WBG+and+IDB+doing+enough+for+transport+decarbonization.pdf

6 Elisabeth Goller and Stephen Porter, Evaluation Insight Note: Transport Decarbonization, (Washington, DC.: World Bank, 2022), https://ieg.worldbankgroup.org/sites/default/files/Data/Evaluation/files/EIN_decarbonization.pdf.

7 "Climate finance aims at reducing emissions and enhancing sinks of greenhouse gasses and aims at reducing vulnerability of, and maintaining and increasing the resilience of, human and ecological systems to negative climate change impacts." Éléonore Soubeyran & Rob Macquarie, "What Is Climate Finance," Grantham Research Institute on Climate Change and Environment, London School of Economics, February 22, 2023, <https://www.lse.ac.uk/granthaminstitute/explainers/what-is-climate-finance-and-where-will-it-come-from/>

8 See here the climate finance project list for Fiscal Years [18](#), [19](#), [20](#), and [21](#).

9 We want to acknowledge that this research looks at a portion of the Bank's climate finance transport portfolio. Our results and recommendations are based on our findings from this research. There is evidence that the Bank finances ZEVs but we did not find this to be true in the set of projects we reviewed. However, this finding is surprising given that we would expect to see support for decarbonization, including support for electric vehicles, in the Bank's climate finance portfolio.

publication of Country Climate and Development Reports (CCDRs).¹⁰

Using the list of transport projects with mitigation co-benefits, we extracted projects from FY18 to FY21 in countries where the Bank has since published CCDRs.¹¹ We identified 13 projects. When we began our research in March 2023, the Bank had published 21 CCDRs covering 25 countries.¹² Since the projects included in our research were approved prior to the publication of CCDRs, we were not looking for alignment but rather to gain perspective on how the Bank has discussed opportunities for transport decarbonization. In addition, we also extracted projects with mitigation co-benefits from FY20 and FY21 and identified 20 projects. In total, we reviewed 33 projects.¹³

To evaluate the projects, we reviewed the Project Appraisal Document (PAD), Project Information Document (PID), and Environmental and Social Impact Assessment (ESIA)

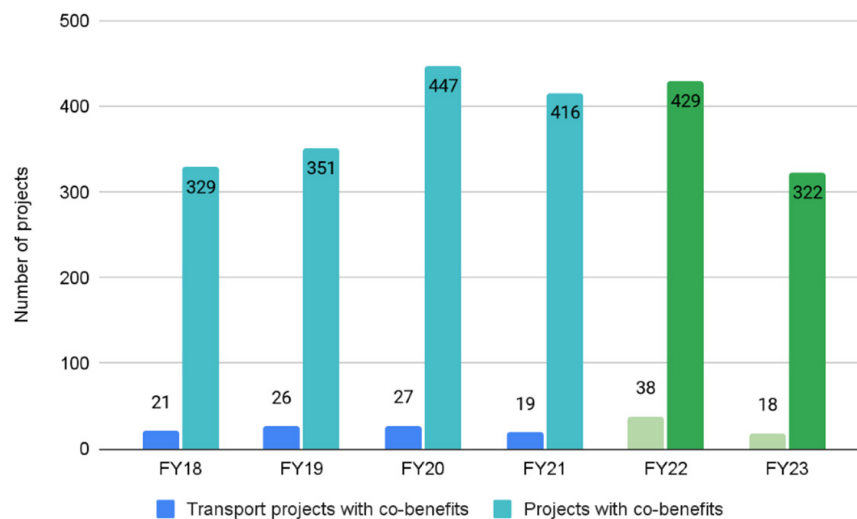
or Environmental Assessment¹⁴ to assess if they include investments or commitments to use ICE vehicles or ZEVs and to evaluate the nature of mitigation co-benefits. One potential limitation associated with our methodology is the lack of specific and explicit consideration and reference to ICE or ZEV technologies in project documents disclosed by the Bank.

Findings

Total Number of Projects

We identified 93 transport projects with climate co-benefits from FY18 to FY21. The number of projects steadily increased between FY18 and FY20 but declined in FY21. However, the number of projects with climate co-benefits in FY22 is almost two times greater than in FY21.¹⁵

Figure 1. Transport Sector Climate Finance Projects per FY Compared to the Overall Number of Projects with Climate Finance



¹⁰ See here the climate finance project list for [FY22](#) and [FY23](#). Based on a quick review of the transport projects approved in FY22 and FY23, we found 38 transport projects with co-benefits (26 with mitigation co-benefits) in FY22 and 18 projects with co-benefits (14 with mitigation co-benefits) in FY23. While we have not reviewed the substance of these projects, the decrease in projects from FY22 to FY23 is concerning given the need for the World Bank to help decarbonize transport.

¹¹ CCDRs are a new diagnostic the World Bank is using to demonstrate opportunities for low-carbon and resilient development pathways that are compatible with economic growth. See here a list of CCDRs that the Bank has published. Since we started our research in early 2023, the Bank has continued to publish more CCDRs. We reviewed the CCDRs published up to March 2023. This includes CCDRs for: Pakistan, Nepal, G5 Sahel, Bangladesh, Turkiye, Peru, Egypt, Morocco, and Argentina.

¹² The CCDRs published prior to March 2023 include: Angola, Argentina, Bangladesh, Cameroon, China, Egypt, Ghana, G5 Sahel (Burkina Faso, Chad, Mali, Mauritania, and Niger), Iraq, Jordan, Kazakhstan, Malawi, Morocco, Nepal, Pakistan, Peru, Philippines, Rwanda, South Africa, Turkiye, and Vietnam.

¹³ A breakdown of projects reviewed per FY. We reviewed 1 project in FY18, 3 projects in FY19, 16 projects in FY20, and 13 projects in FY21. The Annex contains a full list of all transport projects with co-benefits and the projects we reviewed.

¹⁴ Most of the projects included an ESIA or Environmental Assessment; however, there were a handful of projects that did not include either. In these projects, we reviewed the Environment and Social Management Framework, Environmental and Social Commitment Plan, and Program-for-Results Environmental and Social Systems Assessment.

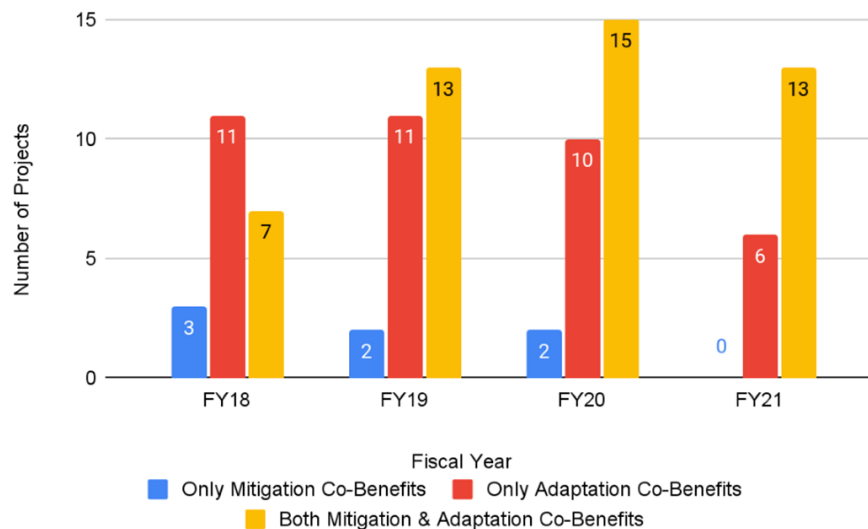
¹⁵ While this report is based on a review of transport projects with climate co-benefits from FY18 to FY21, we were interested in reviewing the climate finance project lists for FY22 and FY23 to identify trends and any significant changes in the number of projects and amount of finance for mitigation. One significant finding is the drastic increase in projects in FY22, but also the significant decrease in the number of projects the following year.

Transport Projects with Co-Benefits

The figure below provides a breakdown of climate co-benefits per FY. Of the 93 projects, 48 have both mitigation and adaptation co-benefits, 38 projects have adaptation co-benefits, and seven have mitigation co-benefits. The higher number of adaptation projects is likely a result of the Bank's commitment to increase its finance and support for adaptation as articulated in

the World Bank Group's [Action Plan on Climate Change Adaptation and Resilience](#) and the World Bank Group's [Climate Change Action Plan](#) (CCAP). In the CCAP, the Bank committed to increasing adaptation finance to at least 50 percent of its finance with climate co-benefits.¹⁶ As the Bank scales up its finance for adaptation, it is important that it not significantly worsen climate pollution, just as investments to decarbonize should not undermine resilience in the face of imminent climate impacts.

Figure 2. Transport Projects with Co-Benefits



Finance for Mitigation

Based on what the Bank has approved, the amount of finance for transport mitigation has remained steady at around 9.3 percent over the four years, despite fluctuations in the number of transport projects per year.¹⁷ It is important that the Bank continues to increase the amount of finance for transport and transport decarbonization efforts, as this is critical for reducing global GHG emissions.¹⁸

We looked at the lending instruments and found that most of the projects analyzed were Investment Project Financing (IPF) (31 projects). There is one Program-for-Results (PforR) project and another is classified as a hybrid with both PforR and IPF components. We did not review any Development Policy Financing (DPF) operations as there were no DPF projects that met our criteria.¹⁹ There is a relatively even split between projects financed by the International Bank for Reconstruction and Development (IBRD) (17) and the International Development Association (IDA) (16).

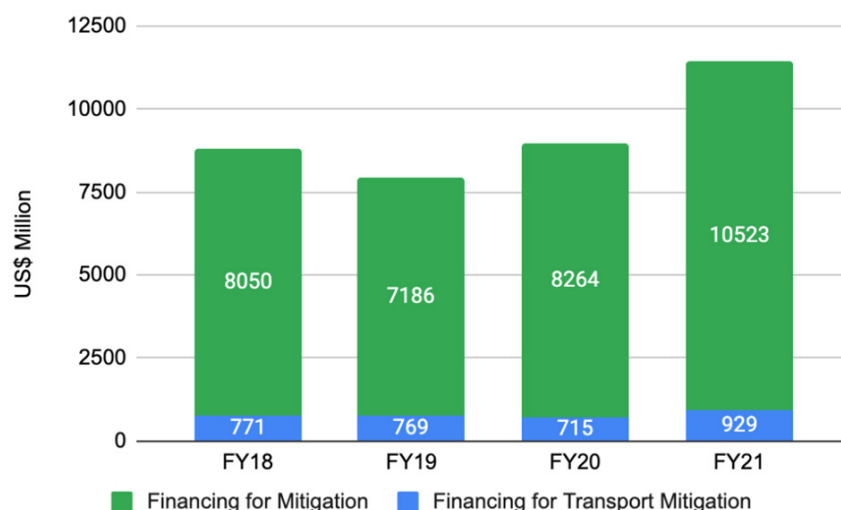
¹⁶ "World Bank Group. 2021. World Bank Group Climate Change Action Plan 2021–2025: Supporting Green, Resilient, and Inclusive Development. © World Bank, Washington, DC. <http://hdl.handle.net/10986/35799> License: CC BY 3.0 IGO."

¹⁷ In this report, we did not verify the amount of financing that has been disbursed. Though it is important to do so to hold the World Bank accountable as research has shown the Bank has overestimated climate finance. See: Jason Farr, James Morrissey, & Christian Donaldson, *Unaccountable Accounting: The World Bank's unreliable climate finance reporting* (Oxford: Oxfam International, 2022), <https://oxfamlibrary.openrepository.com/bitstream/handle/10546/621424/bp-world-bank-unreliable-climate-finance-reporting-031022-en.pdf?sequence=4>, for an analysis on the Bank's climate finance reporting.

¹⁸ Using the figures provided by the Bank, we found that in FY22, the amount of mitigation finance for transport projects was \$1,887.2 million, but it decreased by more than 50 percent in FY23. In FY23, the amount of finance for mitigation was \$808.6 million. This is far below what is needed to fully embrace and enable widespread transport decarbonization. A report from McKinsey & Company found the investments needed to support transport decarbonization and a shift to ZEVs is around \$3.5 trillion from 2021-2050.

¹⁹ The lack of DPF projects is consistent with the IEG's finding that "the World Bank has not exploited the development policy operation (DPO) instrument to support transport decarbonization." Elisabeth Goller and Stephen Porter, *Evaluation Insight Note: Transport Decarbonization*, (Washington, DC.: World Bank, 2022), https://ieg.worldbankgroup.org/sites/default/files/Data/Evaluation/files/EIN_decarbonization.pdf.

Figure 3. Finance for Transport as a Share of the Bank's Finance for Mitigation



Transport Projects Per Region

This section will provide insights on the types of projects across the seven regions. We focused on examining the number, financing, and types of projects across different regions, acknowledging that the volume of financing does not always correlate with the number of projects. Our aim was to gain insights into the regional variations in Bank-funded projects and to determine whether transport decarbonization initiatives are prioritized more heavily in certain regions compared to others. Of the 10 projects in South Asia, four are in India. The majority of the projects in this region are road projects and likely to further the dependence on cars, trucks, or other private vehicles. Two of the projects are categorized as urban transportation, and project documents for the [Karachi Mobility Project](#) indicate the new fleet for the BRT system will use diesel-hybrid buses.

In Latin America and the Caribbean (LAC), four of the six are public transport projects; however, in one of the projects, [Lima Metropolitan BRT North Extension](#), the PAD notes the opportunity for the project, “to support transport operators and bus operators to renew part of the natural gas fleet.”²⁰ The other two projects in LAC intend to use solar for lighting and power in markets and are unrelated to transportation.

In East Asia and the Pacific (EAP), we identified one urban transport project and two projects that seek to enhance the resilience of the existing transport systems. The two projects in the Middle East and North Africa (MENA)

seek to help facilitate a shift away from cars and private vehicles. One of the projects, [Morocco Urban Transport Program PforR AF](#), aims to “strengthen the capacity of urban transport institutions to plan, implement, and monitor infrastructure and services, and to improve the level of service of urban transport in targeted corridors in the Program Area.”²¹ According to project documents, the interventions supported under this project will help to increase the use of public transportation in Morocco. The other project in the MENA region, the [Railway Improvement and Safety for Egypt Project](#), aims to improve the railway, which according to the PAD, “will encourage a modal shift from cars and trucks.”²²

The projects in Europe and Central Asia (ECA) can be divided into two categories: rail and road rehabilitation projects. All of the projects in both Africa East (AFE) and Africa West (AFW) are road projects and intend to improve connectivity and access to goods and services. For example, the PDO of the [Guinea-Bissau Rural Transport Project](#) is “to improve the rural population’s physical access to markets and social services in selected areas.”²³ A trend across projects in AFE and AFW is that they all have a greater percentage of adaptation co-benefits, with most of the projects having between 40 to 50 percent adaptation co-benefits while only having around one to 10 percent mitigation co-benefits. It is important for projects aiming to increase resilience to be

²¹ *Morocco - Urban Transport Program-for-Results : Additional Financing (English)*. Washington, D.C. : World Bank Group. <http://documents.worldbank.org/curated/en/889151604718079960/Morocco-Urban-Transport-Program-for-Results-Additional-Financing>

²² *Egypt - Railway Improvement and Safety Project (English)*. Washington, D.C. : World Bank Group. <http://documents.worldbank.org/curated/en/426221615258901058/Egypt-Railway-Improvement-and-Safety-Project>

²³ *Guinea Bissau - Rural Transport Project (English)*. Washington, D.C. : World Bank Group. <http://documents.worldbank.org/curated/en/372241560788765587/Guinea-Bissau-Rural-Transport-Project>

²⁰ *Peru - Lima Metropolitan North Extension Project (English)*. Washington, D.C. : World Bank Group. <http://documents.worldbank.org/curated/en/462741580698900411/Peru-Lima-Metropolitano-North-Extension-Project>

developed in tandem with mitigation to maximize climate co-benefits. This is particularly important given that the projects are in Sub-Saharan Africa, where urban growth is expected to grow exponentially and so too will the demand for transport.²⁴ As such, the Bank should help develop robust and accessible public and active transport networks, which can help to reduce dependence on cars and private vehicles. This will have a positive impact on global emissions related to transport and can help to

improve urban air quality and the negative externalities associated with pollution.

The chart below shows the combined distribution of World Bank mitigation finance per region in years FY18 to FY21. The amount does not necessarily correlate to the number of projects.

Figure 4. Total mitigation finance per region, \$M

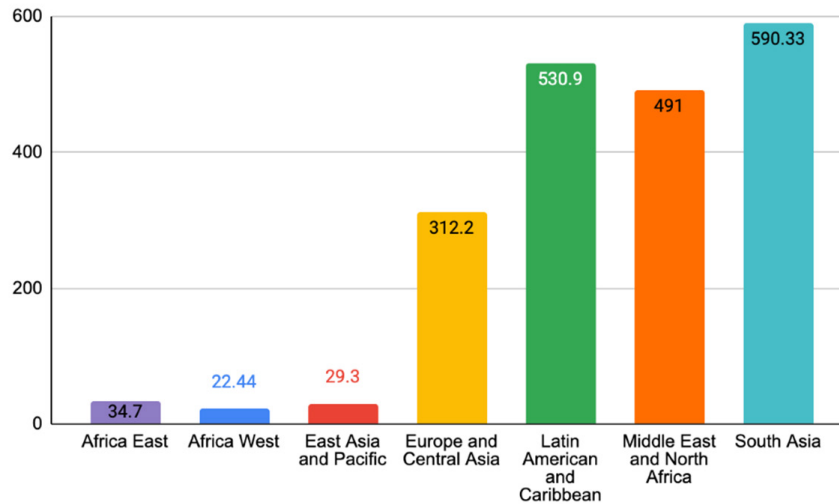
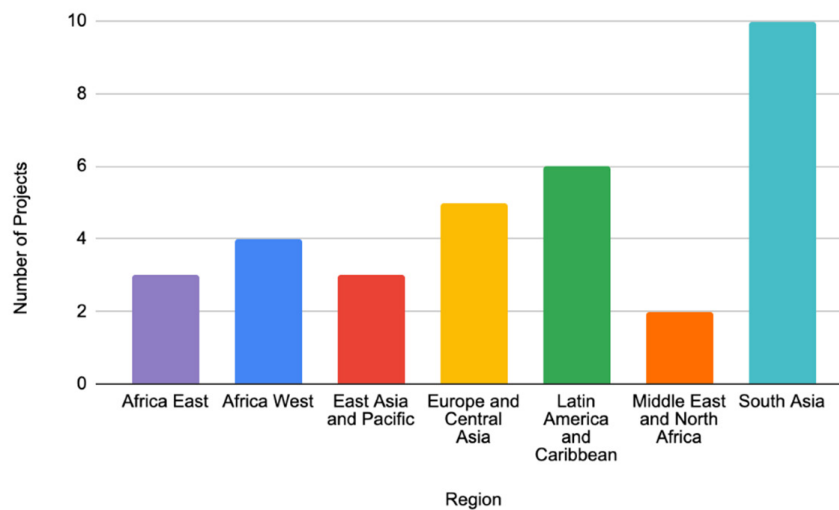


Figure 5. Transport projects per region



²⁴ Bianca Bianchi Alves, Lama Bou Mjahed, & Joanna Moody, *Decarbonizing Urban Transport for Development Mobility and Connectivity Series*, (Washington DC, World Bank, 2023), License: Creative Commons Attribution CC BY 3.0.

Transport Projects Per Sector

The World Bank project page includes a 'Themes' section that identifies all of the relevant themes in each project. We used this data, specifically the main theme, to classify the projects to better understand the types of transport projects the Bank is supporting. We found most of the projects (16 or 48.4 percent) fall under the 'Rural and Inter-Urban Roads' theme. These are primarily road renovation, expansion, or rehabilitation projects. If implemented according to the project documents, they intend to improve road conditions for connectivity, mobility, and trade. While these types of projects should support economic development and help improve connectivity to people, goods, and services, they also expand infrastructure that will likely increase the number and use of private vehicles. These projects should be paired with non-motorized transport (NMT) interventions, such as expanding cycling networks and pedestrian pathways. When the Bank is considering these projects, it should pay special attention to the community's transportation needs and confirm that project interventions are aligned and document how the project maximizes social and environmental benefits.

Six of the projects fall under the 'Urban Transport' theme. Two of these projects include explicit references to ICE buses, one proposes piloting electric buses in Marrakesh, and the three others do not specify the type of vehicle that will be financed. These projects should support a shift away from private vehicles and reduce GHG emissions, but we are concerned about the Bank's support for ICE bus fleets. ICE fleets will lock in emissions-intensive vehicles and infrastructure and delay transport decarbonization. This is concerning given the necessary timeframe for reducing GHG emissions, which according to the IPCC is a reduction of emissions by 80 to 97 percent in the next 26 years.²⁵

There are four 'Railways' projects. If implemented according to project design, three of the projects should help increase the use of public transport and offer an alternative to private vehicles for long distance travel. For instance, the [Buenos Aires Mitre Passenger Railway Line Modernization Project](#) aims to "support a modal shift from road transport into rail."²⁶ The other railway project

aims to "shift freight from trucks to rail," which should help reduce emissions from heavy duty vehicles.²⁷

Of the three 'Ports/Waterway' projects, one seeks to "promote ferry use instead of road transport" by upgrading and modernizing the ferry fleet to incentivize using it for transport as opposed to private vehicles.²⁸ The other two projects under this theme aim to improve the climate resilience of transport infrastructure and the mitigation co-benefits are not specific to transport.

There is one 'Aviation' project and the mitigation co-benefits are associated with the use of energy efficient lighting on the runway. There are three projects in the 'Other' category, and it refers to projects classified as: other transport, social protection, and public administration- transport projects. The social protection project aims to improve communities' connectivity by constructing a road around 80 km in length. The project listed under 'other transport' plans to improve the design of a highway, which should allow vehicles to travel at faster speeds, and the redesign should also promote the use of an unused port. The final project in this category intends to finance works aimed at renovating and upgrading roads.

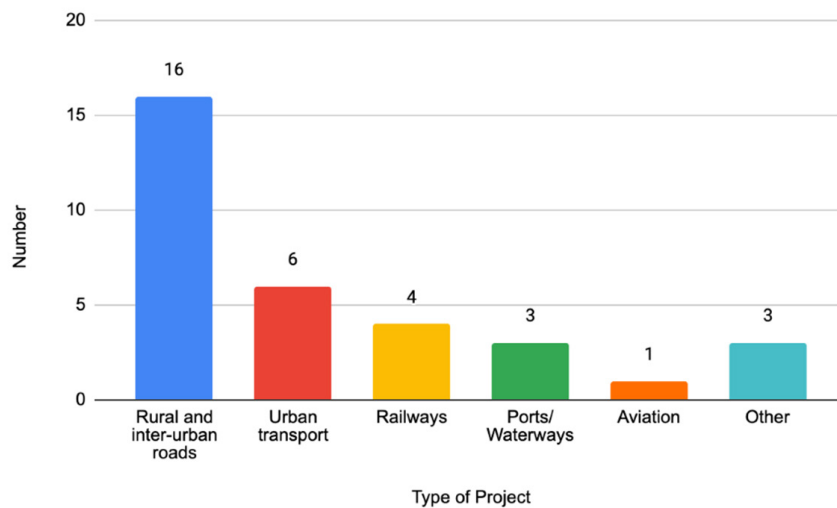
25 IPCC, 2023: Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, H. Lee and J. Romero (eds.)]. IPCC, Geneva, Switzerland, 184 pp., doi: 10.59327/IPCC/AR6-9789291691647.

26 *Argentina - Buenos Aires - Mitre Passenger Railway Line Modernization Project (English)*. Washington, D.C. : World Bank Group. <http://documents.worldbank.org/curated/en/546571620093730768/Argentina-Buenos-Aires-Mitre-Passenger-Railway-Line-Modernization-Project>

27 *Turkey - Rail Logistics Improvement Project (English)*. Washington, D.C. : World Bank Group. <http://documents.worldbank.org/curated/en/223371593828212937/Turkey-Rail-Logistics-Improvement-Project>

28 *India - Assam Inland Water Transport Project (English)*. Washington, D.C. : World Bank Group. <http://documents.worldbank.org/curated/en/298881576551761721/India-Assam-Inland-Water-Transport-Project>

Figure 6. Transport Projects Per Theme



PROJECTS PROMOTING ICE AND ZEVs

We analyzed the interventions within project components, subcomponents, and disbursement linked indicators to determine whether they include support for or commitment to ICE vehicles or ZEVs. In some cases, this was difficult to determine due to a lack of specificity and explicit reference to ICE or ZEV vehicles or technology in project documents. According to project documents, one project proposes piloting electric buses, while two other projects²⁹ propose developing strategies to promote the use of zero emission vehicles. We identified two projects with explicit references to ICE vehicles.

Bank Support for ICE Vehicles: The Karachi Mobility Project

The Project Development Objective (PDO) of the [Karachi Mobility Project](#) is “to improve mobility, accessibility and safety along selected corridors in Karachi” by developing a BRT system along the Yellow Corridor.³⁰ The Bank expects this will support an uptick in the use of public transport and “it will shift road users from polluting transport modes to lower carbon modes.”³¹ However, the 268 new buses for the BRT project, which are expected to be “provided through a Public Private Partnership” will be diesel-hybrid.³² The Environmental Impact Assessment (EIA) notes that diesel-hybrid buses were selected “based

on their fuel economy, emission reduction and safety purposes and based on the shortage of CNG supply.”³³ While the EIA estimates diesel-hybrid buses use 42 percent less fuel, diesel-hybrid buses will still contribute to carbon lock-in.³⁴ The analysis in the EIA found that a ZEV bus fleet was not feasible due to electricity shortage and high price in Pakistan.³⁵ While this may have been the case when the Bank was designing the project, new tools such as Calstart’s [Zero-Emission Technology Inventory](#) show that an electric bus fleet in Pakistan is feasible and there are various options available.³⁶ As contexts change and ZEVs become more readily available, the Bank should be open to updating or revising project design to account for any new developments that could lead to greater climate co-benefits.

NATURE OF MITIGATION CO-BENEFITS AND GREENHOUSE GAS EMISSIONS REDUCTIONS

In our review, we found the Bank does not usually include detailed information on the nature of mitigation co-benefits in project documents. We did identify trends across projects helping us to better understand the nature

29 [Himachal Pradesh State Roads Transformation Project](#) and [Meghalaya Integrated Transport Project](#)
 30 *Pakistan - Karachi Mobility Project (English)*. Washington, D.C. : World Bank Group. <http://documents.worldbank.org/curated/en/327981561946644468/Pakistan-Karachi-Mobility-Projec>
 31 Ibid.
 32 Sindh Mass Transit Authority. Pakistan - Karachi Mobility Project : Environmental Assessment : Environmental Impact Assessment (English). Washington, D.C. : World Bank Group. <http://documents.worldbank.org/curated/en/129981557732647258/Environmental-Impact-Assessment>
 33 Sindh Mass Transit Authority. Pakistan - Karachi Mobility Project : Environmental Assessment : Environmental Impact Assessment (English). Washington, D.C. : World Bank Group. <http://documents.worldbank.org/curated/en/129981557732647258/Environmental-Impact-Assessment>
 34 “Carbon lock-in occurs when fossil fuel-intensive systems perpetuate, delay, or prevent the transition to low-carbon alternatives- a situation that can seriously imperil climate action.” Ichiro Sato, Beth Elliot, & Clea Schumer. “What Is Carbon Lock-in and How Can We Avoid It?” World Resources Institute, May 25, 2021, <https://www.wri.org/insights/carbon-lock-in-definition>
 35 Sindh Mass Transit Authority. Pakistan - Karachi Mobility Project : Environmental Assessment : Environmental Impact Assessment (English). Washington, D.C. : World Bank Group. <http://documents.worldbank.org/curated/en/129981557732647258/Environmental-Impact-Assessment>
 36 CALSTART (2024): Drive to Zero’s Zero-emission Technology Inventory (ZETI) Tool Version 9.0 Available online at <https://globaldrivetozero.org/tools/zero-emission-technology-inventory/>

of co-benefits, but these trends illustrate potential gaps in Bank analysis. For example, in public transportation projects, mitigation co-benefits are presented as avoided or reduced emissions per capita due to the shift from private vehicles. Another type of mitigation co-benefit described in project documents is a reduced growth in emissions due to less congestion, vehicles traveling at higher speeds, and improved fuel efficiency. However, we found that this assumption for emissions reductions is not consistently applied across projects. One potential gap we identified in both public transport and road projects, since the GHG mitigation analysis is not usually disclosed, is a failure to recognize and account for reduced capacity of carbon sinks (e.g., removal of mature trees for highway expansion) and increased use of fuel from heavier traffic due to road expansion. If the Bank wants to assess mitigation based on assumptions about the 'net emissions,' it should disclose the full GHG mitigation analysis and the underlying assumptions in the PAD or ESIA. The Bank should also disclose the full GHG mitigation analysis, as IEG cautioned, to "ensure that decarbonization claims are not overstated."³⁷

Lack of Transparency

A fair or productive analysis of mitigation co-benefits in project documents is not possible due to the often cursory nature of disclosure. According to the Bank, "the climate finance reported covers only elements or proportions of projects that directly contribute to or promote adaptation and/or mitigation."³⁸ In some projects, the exact activity or intervention with mitigation co-benefits is unclear. While some projects include a climate co-benefit annex in the PAD or PID, the Bank has not mainstreamed this across all projects. The omission of this annex or more detailed information on mitigation co-benefits leads to uncertainty and makes it difficult to determine how the Bank is supporting mitigation. This is a particular concern in the case of projects with dubious climate co-benefits, such as those projects acknowledging they will increase GHG emissions. While these projects are reported to have mitigation and adaptation co-benefits, it is unclear how they will increase resilience and they do not have mitigation benefits. Yet, the Bank still classifies these projects as climate finance and having climate co-benefits. The Bank should disclose the climate co-benefits calculation in the PAD or the ESIA to increase transparency and accountability.

37 Elisabeth Goller and Stephen Porter, Evaluation Insight Note: Transport Decarbonization, (Washington, DC.: World Bank, 2022), https://ieg.worldbankgroup.org/sites/default/files/Data/Evaluation/files/EIN_decarbonization.pdf.

38 "What You Need to Know About Climate Co-Benefits," World Bank, March 11, 2021, <https://www.worldbank.org/en/news/feature/2021/03/10/what-you-need-to-know-about-climate-co-benefits>

Inconsistent Rationale for Emissions Reductions

In addition to the absence of a standardized analysis of mitigation co-benefits, we also identified variation around the Bank's estimate for GHG reductions in 'Rural and Inter-Urban Road' projects. The Bank rationale for mitigation co-benefits in these projects is that improvements and road expansion will enable vehicles to travel at faster speeds, there will be improvements in fuel efficiency, and a reduction in congestion. However, we found this assumption is not uniformly applied across projects. For instance, in the [Nepal Strategic Road Connectivity and Trade Improvement Project](#), the Bank explains emission reductions are expected to come from "reduced travel time and reduced congestion [as] road improvement works will help increase vehicle speeds and enhance fuel efficiency."³⁹ Yet, when we reviewed a project of a similar nature, the [Enhancing Niger Northeastern Connectivity Project](#), a project that states it will produce additional emissions, it acknowledges the increase is "attributed to the increase in travel speeds with the project, which in turn is due to the improved road conditions created by the project."⁴⁰ Without seeing more information on the project-level methodology for assessing GHGs, it appears as if the Bank is inconsistent in a way that undermines the credibility of its reporting on mitigation finance.

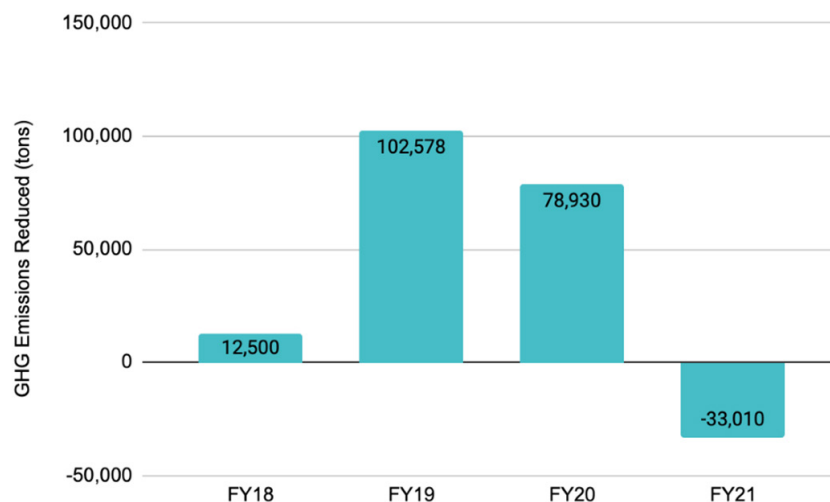
Greenhouse Gas Emissions Reductions

The chart below illustrates the Bank-reported expected GHG emissions reductions (tons of CO₂) per FY. The figure for FY18 covers estimated reductions from one project. Despite the fact that we only reviewed three projects in FY19, it has the highest expected emissions reductions. This is likely due to the [Second Bridges Improvement and Maintenance Program](#), which expects to reduce emissions by around 1.3 million tons over 20 years, an average of around 65,000 tons per year. The expected figure for emissions reduction in FY20 is 73,930 tons. While this FY includes more projects (16), not all of the projects (4) included a GHG emissions reduction target and some projects (3) are expected to increase GHG emissions. We found that this is also the case for FY21; two projects did not include a figure and two projects are expected to increase emissions, and overall this will lead to an increase in GHG emissions.

39 *Nepal - Strategic Road Connectivity and Trade Improvement Project (English)*. Washington, D.C. : World Bank Group. <http://documents.worldbank.org/curated/en/814981592100022780/Nepal-Strategic-Road-Connectivity-and-Trade-Improvement-Project>

40 *Niger - Enhancing Niger Northeastern Connectivity Project (English)*. Washington, D.C. : World Bank Group. <http://documents.worldbank.org/curated/en/503451614999709202/Niger-Enhancing-Niger-Northeastern-Connectivity-Project>

Figure 7. Expected Greenhouse Gas Emissions Reductions



Road Expansion Projects: Western Economic Corridor and Regional Enhancement Program

We identified a number of projects with interventions to expand roads and highways. One example is the [Western Economic Corridor and Regional Enhancement Program](#). According to project documents, the PDO is “to provide efficient, safe, and resilient connectivity along a regional transport corridor in western Bangladesh; and promote local economic development in the hinterland of the corridor.”⁴¹ The Bank is funding the upgrading of the Jashore-Jhenaidah highway from two to four lanes. The project documents fail to acknowledge that this capacity expansion project will lead to a higher number of private vehicles using the road, likely leading to higher GHG emissions.⁴² In addition, the PAD acknowledges that expanding the highway requires the removal of mature trees, the net impact of which is not accounted for in the Bank’s estimation of GHG emissions associated with the project.⁴³

41 *Bangladesh - First Phase of Western Economic Corridor and Regional Enhancement Program (English)*. Washington, D.C.: World Bank Group. <http://documents.worldbank.org/curated/en/855381593223388763/Bangladesh-First-Phase-of-Western-Economic-Corridor-and-Regional-Enhancement-Program>

42 See Eden Weingart, “Widening Highways Doesn’t Fix Traffic. So Why Do We Keep Doing It?” *New York Times*, January 6, 2023, <https://www.nytimes.com/2023/01/06/us/widen-highways-traffic.html#:~:text=The%20concept%20of%20induced%20traffic,also%20increases%20by%201%20percent%20for%20a%20study%20on%20how%20expanding%20the%20capacity%20of%20highways%20leads%20to%20a%20higher%20number%20of%20vehicles%20on%20the%20road.>

43 While road expansion, construction, and rehabilitation projects are important, “they can be undertaken in more carbon-conscious ways.” Elisabeth Goller and Stephen Porter, *Evaluation Insight Note: Transport Decarbonization*, (Washington, DC.: World Bank, 2022), https://ieg.worldbankgroup.org/sites/default/files/Data/Evaluation/files/EIN_decarbonization.pdf.

Discussion of Findings

General Findings

Based on the 33 projects we reviewed, we found that climate finance in transport has not emphasized decarbonization, much less prioritized a drawdown of reliance on ICE vehicles. While there was demonstrated support for public transport, it does not favor investments in ZEVs, and it is not at the scale needed for transport decarbonization.

Projects represent missed opportunities for the Bank to support local, national, and international commitments on transport decarbonization. For example, São Paulo has a commitment to reduce CO₂ emissions from transport to zero by 2036, and one of the ways the city plans to achieve this is by using more ZEVs in public transportation.⁴⁴ However, for the [São Paulo Aricanduva BRT Corridor Project](#), the project documents do not indicate the type of buses that will be used. Another example is the case of Pakistan. In Pakistan, transportation accounts for 23 percent of total GHG emissions.⁴⁵ However, transport emissions are rising, primarily due to an increase in the number of private vehicles and freight.⁴⁶ Freight accounts for around a third of total transportation emissions; road freight is dominant as rail freight has steadily decreased since the 1950s. The government is committed to revive

44 *Brazil - São Paulo Aricanduva Bus Rapid Transit Corridor Project (English)*. Washington, D.C.: World Bank Group. <http://documents.worldbank.org/curated/en/900081587866484232/Brazil-São-Paulo-Aricanduva-Bus-Rapid-Transit-Corridor-Project>

45 “World Bank Group. 2022. Pakistan Country Climate and Development Report. CCDR Series. © World Bank, Washington, DC. <http://hdl.handle.net/10986/38277> License: CC BY-NC-ND.”

46 Ibid.

and increase the share of rail freight through the Pakistan Railway Revival Plan.⁴⁷ However, one of the projects we reviewed will expand and further the dependence on road freight by supporting a highway capacity expansion project. In addition, it would be ideal to see more alignment with Nationally Determined Contributions (NDCs). For example, Nepal and Bangladesh have NDCs with commitments to develop and expand the rail network, but the projects we reviewed in these countries are not currently aligned.⁴⁸ In the future, we hope to see more alignment with NDCs.

Other findings include that the Bank is not uniformly disclosing in project documents the components, subcomponents, and disbursement-linked indicators it considers as having mitigation co-benefits, as well as the amount of mitigation finance for these components, subcomponents, and disbursement linked indicators. Therefore, there is a lot of ambiguity and uncertainty surrounding what the Bank considers as having mitigation co-benefits, especially in 'Rural and Inter-Urban Road' projects.

Findings Related to CCDRs

We used CCDRs as a reference for where the Bank has discussed opportunities for transport decarbonization and mainstreaming of ZEVs. The CCDRs we reviewed were published in 2022, and fall outside of the timeframe of our research. However, CCDRs are expected to influence future Bank projects and policies, so it is helpful to understand how the Bank is promoting transport decarbonization and the role of ZEVs in this transition.

Across the nine CCDRs we reviewed we identified some common themes. Firstly, a number of CCDRs identify private vehicles as the largest source of transport emissions and emphasize the need to drastically reduce these emissions. Secondly, the CCDRs recommend developing and expanding public and active transportation networks to support a modal shift away from private vehicles. Next, many of the CCDRs articulate the need to support vehicle electrification or other low-emission alternatives and cite regional and national policies that support this. Finally, we identified a trend around shifting from road to rail freight to reduce emissions associated with heavy duty vehicles. Seeing as the CCDRs outline various opportunities to support transport decarbonization and the use of ZEVs, we hope to see this reflected in future climate finance projects in the transport sector.

⁴⁷ Ibid.

⁴⁸ Nepal's [NDC](#) commits "to develop 200 km of electric rail network to support public commuting and mass transportation of goods." Bangladesh's [NDC](#) expresses a commitment to support "modal shift from road to rail [and] electrification of the railway system."

Bank Response

Prior to finalizing this report we wanted to offer the Bank an opportunity to provide input, clarification, or questions on the substance of our research and conclusions. We shared a draft with the Bank's climate and transportation team. Their response makes clear that they are prioritizing technical assistance and knowledge products that favor transport decarbonization. Unfortunately, the Bank continues to make little progress with reorienting its portfolio. Only one active project, the [Dakar Bus Rapid Transit Pilot Project](#), fell out of the scope of our research focus and supported ZEVs. We looked specifically at public sector transport projects with mitigation co-benefits in countries with CCDRs, and Senegal did not have a CCDR until November 2024. However, it is worth mentioning this project because we and the Bank believe it can be scalable and repeatable. According to the Bank, the [Dakar BRT investment](#) includes e-buses and will reduce 1.2 million tons of GHG emissions.

Recommendations and Opportunities

Our research shows that the Bank is not scaling up support for transport decarbonization within its climate finance portfolio. The Bank should be emphasizing transport decarbonization, and specifically helping its clients with the transition from ICE to ZEVs. This should be done at both the project and policy levels, including, but not limited to, updating its Paris Alignment methodology, prioritizing transport decarbonization in the Corporate Scorecard, and emphasizing transport decarbonization in the next phase of the Climate Change Action Plan. We recommend the Bank:

- **Prioritize Transport Decarbonization.** Bank investments should result in increased modes of travel that support the modal shift away from private vehicles, such as public and active transportation. It should be apparent that the Bank is prioritizing ZEVs, including by publicly committing to end all support for ICE vehicles and infrastructure required only for ICE vehicles such as petrol stations. One opportunity for the Bank to do this would involve revising its Corporate Scorecard indicator, "Millions of people that benefit from improved access to sustainable transport infrastructure and services," to include an outcome on transport decarbonization. The IEG report found that "the World Bank has rarely measured transport decarbonization directly" and by doing so, it can help to identify "what does and

does not work and course-correct project activities and the overall portfolio.”⁴⁹

- **Increase Transparency on Mitigation Accounting.** The Bank should disclose how climate co-benefits are measured for each project or investment, including an analysis on scope 1, 2, and 3 GHG emissions. The time horizon of GHG accounting should be determined by the duration of relevant activities with GHG emissions caused or enabled by the Bank investment, even if that extends well beyond when the investment is on the Bank’s books. The Bank should also disclose related documents that support the climate co-benefits and detail the amount of climate finance per component and subcomponent.
- **Align with Current and Future Work.** Transportation projects should be developed in partnership with local communities, and they should be aligned with countries’ NDCs, Long-Term Strategies, and the Bank’s own commitments and diagnostics (e.g. Country Climate and Development Reports, Climate Change Action Plan).
- **Create more Robust and Rigorous Alternatives Analysis.** The alternatives analysis should follow best practices and consider all viable alternatives, such as electrification, especially for projects that are likely to generate a significant amount of GHG emissions. In addition, the alternatives analysis should consider maximizing GHG emissions reductions. For instance, the approach to mitigation co-benefits from public transport projects should consider potentially greater emissions reductions that could come from electrified public transport. The Bank should involve stakeholders proactively before drawing final conclusions for the project, and report out on this interaction in full disclosure of the analysis.
- **Support Investments in Rail.** The Bank should help clients develop robust rail infrastructure and electric rail networks to facilitate the transition from road to rail freight. This will help to reduce transportation emissions from heavy duty vehicles.
- **Provide more Support for Electrification of Medium and Heavy Duty Vehicles (MHDVs).** In addition to decarbonizing public transport, the Bank should support interventions to electrify medium and heavy duty vehicles. This will help the Bank to harmonize its investments with commitments on decarbonization. For example, Pakistan’s NDC cites

a National Electric Vehicle Policy that intends to increase the share of electric heavy duty trucks.

- **Endorse the [Global Memorandum of Understanding \(MOU\) on Zero-Emission Medium- and Heavy-Duty Vehicles \(ZE-MHDVs\)](#).** The Bank must recognize its obligation as a provider of public finance to climate and sustainable development, as well as its vital role in mobilizing private investment, and commit to reorient transportation-related investments across all sectors towards ZEVs and infrastructure that supports ZEVs. The Bank should [pledge](#) to support countries that have signed the [Global MOU on Zero Emission MHDVs](#)
- **Increase Support for Public Transportation.** The Bank should use climate finance to support investments in robust and accessible public transportation systems. The Bank should work with its clients to develop frameworks for the use and expansion of public transportation and work with countries to upgrade, rehabilitate, and expand public transportation infrastructure to encourage greater use and to help reduce emissions from private vehicles. The Bank should focus on areas that currently do not have access to public transportation or areas where the infrastructure cannot meet the needs of the community.
- **Utilize Available Research and Tools on ZEV Technology.** The Bank should capitalize on resources such as the [Zero-Emission Technology Inventory](#) when determining the types of vehicles it will finance in transportation projects. In addition, the Bank should be open to revising project design to account for new developments and improvements, such as new availability of ZEVs.
- **Help Transform Grids.** One of the barriers to electrification is grid capacity and energy storage. The Bank should work with countries to strengthen and diversify their grids to enable an increase in the use of ZEVs.
- **Expand the Universally Non-Aligned List.** As part of the Bank’s Paris alignment methodology, there are investments considered universally non-aligned. Currently, this only includes investments in coal and peat. The Bank should expand its exclusion list to include financing of ICE vehicles.
- **Revise the Paris Alignment Transport Sector Note.** The Bank should revise its Paris Alignment Transport Sector Note. The current Note has a flawed understanding of carbon lock-in. The Note says, “the risk of carbon lock-in is generally low for ICE vehicles (e.g., diesel buses) given the limited lifetime of the asset.” However, this fails to acknowledge that the

49 Elisabeth Goller and Stephen Porter, Evaluation Insight Note: Transport Decarbonization, (Washington, DC.: World Bank, 2022), https://ieg.worldbankgroup.org/sites/default/files/Data/Evaluation/files/EIN_decarbonization.pdf.

lifetime of buses in developing countries is around 20 years.

- **Engage Stakeholders in Consultations on Sector Notes.** The Bank should engage with stakeholders on the Paris alignment Sector Notes and commit to updating the sector notes every three years.

Annex

ALL TRANSPORT PROJECTS WITH CO-BENEFITS

Below is a list of all transport projects with co-benefits. The projects highlighted are those we reviewed.

- Madhya Pradesh Rural Connectivity Project
- Rural and Urban Access Improving Project Additional Financing
- Regional and Local Roads Connectivity
- Northwestern Road Development Corridor Project
- Mali- Rural Mobility and Connectivity Project
- Enhancing Waterways Connectivity and Water Service Provision in Colombia's Plan Pazcifico
- Additional Financing Quito Metro Line One Project
- **Khyber Pass Economic Corridor Project**
- Greater Abidjan Port-City Integration Project
- Road Asset Management Project II Additional Financing
- Greater Beirut Public Transport Project
- Integrated Feeder Road Development Project
- China: Hubei Inland Waterway Improvement Project
- Haiti Rural Accessibility and Resilience Project
- Lao National Road 13 Improvement and Maintenance
- Additional Financing for PMGSY Rural Roads Project
- Lesotho Transport Infrastructure and Connectivity Project (LTIC)
- Republika Srpska Railways Restructuring Project
- Enhancing Infrastructure Efficiency and Sustainability
- Tuvalu Aviation Investment Project Additional Finance III
- East West Highway Corridor Improvement Project Additional Financing
- Uttar Pradesh Core Road Network Development Project
- Southeastern Corridor Road Asset Management Project
- Rajasthan State Highways Development Program II
- Anhui Rural Road Resilience Program for Results
- Third Phase of the Central Asia Regional Links Program (CARs-3)
- Marshall Islands Maritime Investment Project
- Tonga Climate Resilient Transport Project
- Maritime Investment in Climate Resilient Operations
- Sao Tome e Principe Transport Sector Development and Coastal Protection Project
- Operation for Supporting Rural Bridges (SupRB)
- **Second Bridges Improvement and Maintenance Program**
- Framework Development and Infrastructure Financing to Support Public-Private Partnerships
- Federated States of Micronesia Maritime Investment Project
- Integrated and Resilient Urban Mobility Project
- **Rural Mobility and Connectivity Project (Niger)**
- Rural Mobility and Connectivity Project (Guinea)
- Chad Rural Mobility and Connectivity Project
- Support to the Bogota Metro Line 1 Section 1 Project
- Liberia South Eastern Corridor Road Asset Management Guarantee Project
- Samoa Climate Resilient Transport Project
- Additional Financing for Second Rural Transport Improvement Project
- Solomon Islands Roads and Aviation Project
- **Karachi Mobility Project**
- Abidjan Urban Mobility Project
- Lifeline Road Network Improvement Project- Second Additional Financing
- Samoa Aviation Investment Project Additional Finance II
- Timor-Leste Branch Roads Project
- **Assam Inland Water Transport Project**
- **Guinea-Bissau Rural Transport Project**
- **Himachal Pradesh State Roads Transformation Project**
- Nigeria Rural Access and Agricultural Marketing Project
- **Kiribati Outer Islands Transport Infrastructure Investment Project**
- Connectivity for Rural Livelihood Improvement Project
- **Green National Highways Corridor Project**
- Vanuatu Climate Resilient Transport Project
- **Improving Mobility and Urban Inclusion in the Amazonas Corridor in Belo Horizonte**

- São Paulo Aricanduva Bus Rapid Transit Corridor
- Western Economic Corridor and Regional Enhancement Program
- North Macedonia: Local Roads Connectivity Project
- Nepal Strategic Road Connectivity and Trade Improvement Project
- Rail Logistics Improvement Project
- Lima Metropolitan BRT North Extension
- Saint Lucia- Caribbean Regional Air Transport Connectivity Project
- Caribbean Regional Air Transport Connectivity Project- Haiti
- Lao PDR Road Sector Project 2- Additional Financing
- Dominica- Caribbean Regional Air Transport Connectivity Project
- Kandy Multimodal Transport Terminal Development Project
- Grenada- Caribbean Regional Air Transport Connectivity Project
- AF- Haiti Rural Accessibility and Resilience Project
- FSM Maritime Investment Project Additional Financing
- Tonga Climate Resilient Transport Project Additional Financing
- Maritime Investment in Climate Resilient Operations Additional Financing
- Horn of Africa Gateway Development Project
- Tanzania Roads to Inclusion and Socioeconomic Opportunities (RISE) Project
- Fourth Phase of the Central Asia Regional Links Program
- Meghalaya Integrated Transport Project
- Serbia Railway Sector Modernization
- Uganda: Roads and Bridges in the Refugee Hosting Districts/ Koboko-Yumbe-Moyo Road Corridor Project
- Enhancing Niger Northeastern Connectivity
- Federated States of Micronesia Prioritized Road Investment and Management Enhancements Project
- Morocco Urban Transport Program PforR AF
- Ulaanbaatar Sustainable Urban Transport Project
- Regional Connectivity and Development Project
- Chad Rural Mobility and Connectivity Project Additional Financing

- Railway Improvement and Safety for Egypt Project
- Buenos Aires Mitre Passenger Railway Line Modernization Project
- Burkina Faso Emergency Local Development and Resilience Project
- Local Roads Connectivity Project- Additional Financing
- CAR- Emergency Infrastructure and Connectivity Project
- Madagascar Road Sector Sustainability Project
- Cambodia Road Connectivity Improvement

TRANSPORT PROJECTS IN COUNTRIES WITH CCDRS

- Khyber Pass Economic Corridor Project
- Second Bridges Improvement and Maintenance Program
- Rural Mobility and Connectivity Project
- Karachi Mobility Project
- Western Economic Corridor and Regional Enhancement Program
- Nepal Strategic Road Connectivity and Trade Improvement Project
- Rail Logistics Improvement Project
- Lima Metropolitan BRT North Extension
- Enhancing Niger Northeastern Connectivity
- Morocco Urban Transport Program PforR AF
- Railway Improvement and Safety for Egypt Project
- Buenos Aires- Mitre Passenger Railway Line Modernization Project
- Burkina Faso Emergency Local Development and Resilience Project